

Rotatable Shopping Mall:

The present invention relates to a sales and presentation area having individual sales and presentation regions according to the preamble of Claim 1.

In typical sales and presentation areas of this type, the primary intention is to offer the consumers a manifold selection of goods in differently designed sales and presentation regions, which are combined into possibly large-volume sales and presentation areas. It is typical in this case to combine these sales and presentation regions with facilities for gastronomy and entertainment, in order to thus also represent the shopping as an adventure and therefore as a possibility for a recreational activity.

In this case, it is attempted, for example, to draw streams of customers via interesting architectonic design of the sales and presentation area or to awaken the interest of the consumers via diverse events in the freely travelable sections between the individual sales and presentation regions. The operators of the individual sales and presentation regions, in turn, attempt to excite the attention of the customers again and again via a regularly changing design of their individual business regions. "Shopping centers" are thus increasingly turned into "shopping cities", in which shopping is connected with "fun" and "entertainment". However, the selection of sales and presentation areas of this type is increasing and it is becoming more and more difficult to obtain the interest of the consumers. It has been shown to be disadvantageous in this case that the individual sales and presentation regions may be redesigned at a relatively low cost, but the appearance of the entire sales and presentation area may not be changed

without something further, so that the effect of familiarity causes increasing disinterest in the consumers.

It is therefore the object of the present invention to avoid this disadvantage and to ensure a continuously changing appearance of the sales and presentation area via suitable constructive measures in regard to the freely travelable regions between the individual sales and presentation regions. This is achieved by the characterizing features of Claim 1.

In this case, Claim 1 provides that the freely travelable regions between the individual sales and presentation regions are designed to be rotatable. It is provided at the same time that the individual sales and presentation regions are positioned in a known way so that one part of the sales and presentation regions encloses an essentially circular region and a second part of the sales and presentation regions covers an essentially circular region, the region covered by the second part of the sales and presentation regions having a smaller external circumference than the external circumference of the region which is enclosed by the first part of the sales and presentation regions, so that an essentially annular region is defined between the first part and the second part of the sales and presentation regions. This annular region represents the freely accessible region outside of the sales and presentation regions, on which the changing streams of customers move between the individual sales and presentation regions. If, according to Claim 1, this freely travelable region is made rotatable, a static appearance is avoided and continuously changing scenery is ensured even if the customers are peacefully resting. The effect of familiarity is thus less likely to occur.

Although rotatable annular regions are known from other technical fields, they have not yet been used for sales and

presentation areas. E.g., US 2 764 783 suggests a building with an annular region in its interior which is rotatable in a horizontal direction. Facilities of this kind have been particularly proposed for institutions hosting persons with impaired locomotion and suggest that after entering the rotatable platform the latter is set in motion by pushing a button just like in common elevators, until a desired position is reached where the rotational movement stops.

Since the annular region has, in particular, be accessible to design and cleaning work, also the further features of claim 1 are necessary. These measures suggest that the annular region is divided into segments which may be moved in the vertical direction via raising and lowering devices, particularly lowered. In this way, individual ring segments may be supplied to rooms outside of the sales and presentation regions, in which, for example, rebuilding work on the regions of these ring segments may be performed. Performing this rebuilding work outside of the sales and presentation regions may be advantageous, for example, because the ring segments otherwise would not be accessible to the devices necessary for the renovation work or in order to avoid impairing the sales and presentation regions by dust and the like.

In this case, the features according to Claim 2 have been shown to be advantageous because these constructive measures allow the horizontal rotational movement of the ring segments to be decoupled from their vertical movement, which is performed as necessary, and ring segments are also particularly able to be moved individually in the vertical direction.

In accordance with Claim 3, in addition to the rooms which are necessary for vertical movement of the ring segments, further rooms are provided below the sales and presentation regions,

which the ring segments may be pushed into in the radial direction. With simultaneous implementation of Claim 4, it is possible in this way, for example, to lower a ring segment, push a segment, via a movement in the radial direction, from the lifting and lowering devices into rooms in which, for example, rebuilding work may be conveniently performed, move the lifting and lowering devices vertically so that another ring segment may be pushed onto the lifting and lowering devices from another room, and bring this segment to the height of the sales and presentation regions as a temporary replacement.

Claim 5 provides a cost-effective embodiment, which is particularly advantageous on the basis of the measures of Claim 2.

Of course, it is, according to claims 6, also possible to implement the device according to the present invention, the rotatable annular region for receiving the streams of customers in between surrounding sales and presentation regions, in manifold form, the individual annular regions approaching one another in the region of the lifting and lowering device, for example, if the measures of Claim 5 are implemented. This embodiment is described in more detail in the following.

Claims 7 and 8 provide advantageous embodiments of the device according to the present invention.

The present invention is described in the following with reference to the attached drawing, which relates to a possible embodiment of the present invention.

- Fig. 1 shows an embodiment of the present invention in horizontal projection,
- Fig. 2 shows the embodiment shown in Fig. 1 in vertical projection, with
- Fig. 2a illustrating the device according to the present invention in an arrangement which it would be in during the use of the annular region by customers and
- Fig. 2b illustrating the device according to the present invention in an arrangement which it would be in during intended rebuilding work on the ring segments,
- Fig. 3 shows sections of the embodiment of the present invention shown in Fig. 1 in vertical projection, with
- Fig. 3a illustrating those sections of the travelable annular regions which are not equipped with lifting and lowering devices,
- Fig. 3b illustrating the section of the travelable annular regions which is equipped with lifting and lowering devices in an arrangement which it would be in during use of the annular region by customers, and
- Fig. 3c illustrating the section of the travelable annular regions which is equipped with lifting and lowering devices in an arrangement which it would be in during intended rebuilding work on the ring segments.

As may be seen in Fig. 1, individual sales and presentation regions 1, 2 are arranged into parts, a first, outer part 1 at least partially enclosing an essentially circular region, within which second, inner part 2 of sales and presentation regions 1, 2 extends, which at least partially covers an essentially circular region. Therefore, a freely travelable annular region 3 is formed between first, outer part 1 and second, inner part 2 of sales and presentation regions 1, 2, on which the changing streams of customers move between individual sales and presentation regions 1, 2. In this case, regions having other uses, such as sanitary facilities, storage rooms, or entrances and exits, may also be located in the outer region, which is defined by first part 1 of sales and presentation regions 1, 2, and in the inner region, which is defined by second part 2 of sales and presentation regions 1, 2. Annular region 3 is divided into ring segments 3_{seg} both in regard to its constructive embodiment and in regard to its design. Thus, for example, each segment 3_{seg} may be designed as its own "adventure world" with the aid of sound, light, and smell effects, as well as the use of different floor coverings, such as wood, stone, or grass floors, reflecting or transparent floors, and floors having bodies of water and the like. Ring segments 3_{seg} may house gastronomy facilities such as cafes, bars, restaurants, or bistros, facilities such as playgrounds, movie theaters, or theaters, or exhibition regions such as auto presentations, etc.

While no movement ability is provided for sales and presentation regions 1, 2, annular region 3 is mounted so it is rotatable around an axis of rotation 7. This may be performed via drives of different types (not shown), as have been known for a long time in drive technology for revolving stages and the like. The rotational speed is selected so that

it corresponds to all legal guidelines, in particular, the use of rotating annular region 3 is also to be easily possible for older people and the handicapped. Since, at a constant angular speed, the local rotational speed on annular region 3 increases with increasing distance from the center of rotation, the optimum angular speed is oriented to both the maximum permissible rotational speed and the outer diameter of annular region 3. For example, if the outer diameter of annular region 3 is 120 m and the inner diameter is 80 m, then at a maximum permissible rotational speed of 2.5 cm/sec., the angular speed selected is to be approximately 1.4 rad/hour, which corresponds to a rotational speed of 1.6 cm/sec. at the inner diameter and 2.4 cm/sec. at the outer diameter of circular ring 3. A complete rotation would therefore be performed in 4 hours and 21 minutes in this exemplary embodiment. It is obvious that the angular speed of rotating annular region 3 selected must be smaller the larger the sales and presentation area is constructed, i.e., the larger the outer diameter of annular region 3 is.

In the embodiment shown in Fig. 1, two annular regions 3 are provided, which nearly come into contact in a section 13. For this purpose, respective first parts 1 of sales and presentation regions 1, 2 will not completely enclose an inner circular region, but will leave out a freely travelable section 13, which is provided with an unmoving floor. This section 13 therefore represents a connection section between both annular regions 3. Furthermore, according to this embodiment, both annular regions 3 are each provided with a lifting and lowering device 4, such as a lifting stage, which is positioned in section 13 of annular regions 3.

During use of annular regions 3 by customers, annular regions 3 are set into horizontal rotational movement via drives (not

shown). Annular regions 3 slide over lifting and lowering devices 4 in this case. If needed, for example, in the event of intended redesign of a specific ring segment 3_{seg} , the horizontal rotational movement of annular region 3 is stopped in such a way that ring segment 3_{seg} to be redesigned comes to rest on lifting and lowering device 4. If there are no customers on ring segment 3_{seg} , lifting and lowering device 4 may be activated so that this ring segment 3_{seg} is lowered as shown in the embodiment of Fig. 1 and supplied to rooms 5a below sales and presentation regions 1, 2. As is shown in Figs. 2b and 3c, affected ring segment 3_{seg} may now be pushed from lifting and lowering device 4 into rooms 5a, serving as a rebuilding region, via a radial movement. Lifting and lowering device 4 is therefore free to receive a new ring segment 3_{seg} , which is stored, for example, in another room 5b, used as a storage room, and used as a temporary replacement for ring segment 3_{seg} , which is subjected to redesign. For this purpose, lifting and lowering device 4 only has to be moved in the vertical direction so that it is possible to push new ring segment 3_{seg} onto the lifting and lowering device from room 5b. This new ring segment 3_{seg} may finally be brought to the height of sales and presentation regions 1, 2, so that the horizontal rotational movement of annular region 3 may be resumed. This process is preferably performed outside of the opening times of the sales and presentation area. Since the replacement of a ring segment 3_{seg} according to the procedure described is finished within a few minutes, however, it would also be conceivable to block off the affected section during this time, so that replacement of ring segments 3_{seg} may also be performed during the opening times.

The advantages of the possible rebuilding of ring segments 3_{seg} outside of publicly accessible sales and presentation regions 1, 2 are that, among other things, rebuilding, which is time-

intensive in some circumstances, may be performed without having to close the sales and presentation area. The rebuilding work particularly avoids dust and noise problems for surrounding sales and presentation regions 1, 2. The access to rooms 5a may also be designed in such a way that they are accessible to larger devices and/or equipment objects. Rooms 5a themselves may be equipped with cranes and machines of all types, so that the infrastructure necessary for rebuilding work is already provided.

In the sections of lifting and lowering devices 4, roof 8 of the sales and presentation area may be designed so that it may be opened up sometimes, as is indicated in Figs. 2b and 3c. To produce the desired sound and light effects, centrally controlled public address systems having loudspeakers 9 and light facilities having movable spotlights 10, as well as multimedia projection devices, may be provided. For precise, vertical movements of loads and scenic design elements, point hoists 11 may also be provided. For suspending scenographic elements, as is known from theater technology, a stage loft 12 may be installed, which is positioned over sales and presentation regions 1, 2.

Therefore, by combining modern technology with theater elements, a shopping world is supplemented with different "adventure worlds". These "adventure worlds" may be continuously changed, so that the sales and presentation area is presented to the customers in a continuously changing appearance, through which effects of familiarity may be suppressed.